

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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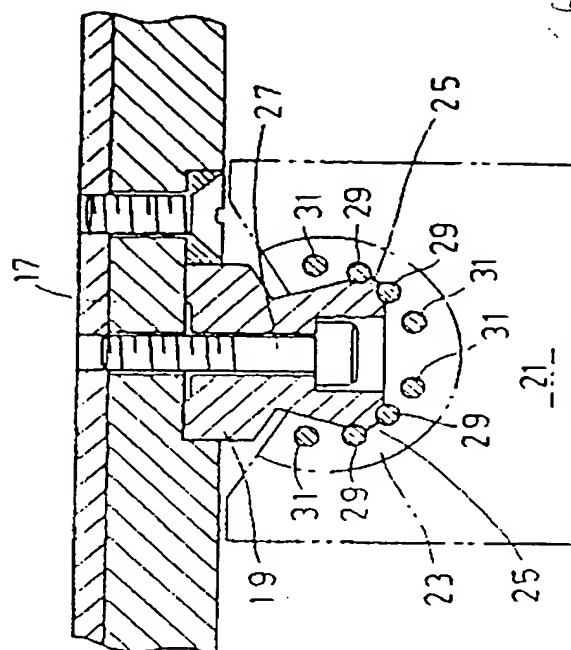
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APPLICATION NUMBER : 61108639

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TITLE : PRESS MACHINE



**ABSTRACT :** **PURPOSE:** To eliminate the clatters of guide parts and to decrease sliding resistance by providing ball cases contg. steel balls which press plural splined rails with pre-load from both sides of the respective rails and which themselves move circulatively while rolling.

**CONSTITUTION:** The splined rails 19 parallel with the moving direction of a slide are fixed to the frame of a press machine on the front face of a column part 17 of the frame by means of many bolts 27. The ball cases 23 are provided dividedly by each one piece to the top and bottom to the rear surface of the slide by means of brackets 21. Each splined rail 19 has the railroad rail shape having an expanded top part and angular projecting part 25 at both ends of the top part are pressed with the pre-load by the steel balls 29 from both sides. The rows of the steel balls 29 in the state of pressing the angular projecting parts 25 are the steel balls 31 which move in opposite directions at about the middle of the thickness of the ball cases 23 in the position distant from the angular projecting parts 25 at the time when the ball cases 23 move. Since such guide system of the circulative rolling friction is adopted, the clatters of the guide parts are eliminated.

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